

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on September 11, 2002, and the references cited therewith.

Claim 1 is amended and claims 21-40 are added; as a result, claims 1-3, 5-11, and 21-40 are now pending in this application.

§102 Rejection of the Claims

Claims 1, 2, 5, and 9-11 were rejected under 35 USC § 102(e) as being anticipated by Puntambekar (U.S. Patent No. 5,821,603). The Applicant discussed an amendment of the claims to refer to an "atmosphere free of argon" with the Examiner on October 3, 2002. The Examiner agreed that with this amendment, the Putambekar reference does not anticipate claims of the present invention. The Putambekar reference does not describe an atmosphere free from Argon and goes to some length to describe the importance of argon.

§103 Rejection of the Claims

Claims 3 and 6-8 were rejected under 35 USC § 103(a) as being unpatentable over Puntambekar. The Puntambekar patent describes the importance of argon in roughening a surface. The gas flows described all have concentrations that are predominantly argon. The claimed gas flowrate in the present application is free from argon in order to AVOID surface roughening. The gas flowrate in Table II cited by the Examiner is 100 cc, not at least 300 sccm, as is claimed. The Applicant discussed an amendment of the claims to refer to an "atmosphere free of argon" with the Examiner on October 3, 2002. The Examiner agreed that with this amendment, the Putambekar reference does not render claims of the present invention obvious. The Putambekar reference does not describe an atmosphere free from argon and goes to some length to describe the importance of argon in its process.

The Examiner has stated that an argon flowrate of 5 sccm is "substantially free" from argon. However, 5 sccm is not 0, and a flowrate of 5 sccm argon is not free from argon. The Putambekar reference does not state or suggest that a gas mixture that includes 5 sccm argon is the same as a gas mixture that is free from argon. Therefore, the Applicant asserts that an argon

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flowrate of 5 sccm is not the same as a gas mixture with no argon. According to Putambekar, the 5 sccm flowrate produces roughening—which is why it is described in the reference.

The Puntambekar reference has an end result much different from what is claimed in the present invention. As has been discussed in previous correspondence, the claims of the present invention utilize an oxygen flowrate much greater than is described in the Puntambekar, and a flow where oxygen is predominant. The claims do not identify a use of argon in order to roughen the silicon nitride surface. This is no accident. The desired result of the present invention is a surface free of discontinuities. Table II, cited by the Examiner, includes Argon to create the surface roughening. The desired result of the Puntambekar reference is a roughened surface. Puntambekar did not contemplate that one could create a surface resistant to discontinuity by treating it in an atmosphere of at least 300 sccm oxygen, at a vacuum of 3 to 6.5 Torr. Thus, the Puntambekar reference does not render the present invention obvious.

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TITLE: OXYGEN PLASMA TREATMENT FOR NITRIDE SURFACE TO REDUCE PHOTO FOOTING

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6976 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

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Date 9 December 02

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 9 day of December, 2002.

Name

Tina Kohout

Signature

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